

## Notes: Refraction

What is refraction?

What causes refraction?

What is index of refraction?

What are typical values for the index of refraction?

What is the speed of light in:  
Air?

Water?

Diamond?

What happens when light travels from a less to a more dense material?

What happens when light travels from a more dense to a less dense material?

What is Snell's Law?

## Notes: Refraction

If light is traveling from air to glass ( $n = 1.5$ ) and hits the glass at an angle of 30 degrees with the normal, what angle will the refracted ray make with the normal in the water?

If light is traveling from water ( $n = 1.33$ ) to air and hits the air at an angle of 40 degrees with the normal, what angle will the refracted ray make with the normal in the air?

What is Total Internal Reflection?

What is the critical angle?

How do you calculate the critical angle?

What is the critical angle for a water-air interface?

What is the critical angle for a diamond-air interface?

Why does Total Internal Reflection make diamonds more sparkly?